

Abstract

It is possible to express a tree-type data structure so as to effectively trace the relationship between data in the tree-type data structure (for example, parent-child, ancestor, descendant, brothers, generations). In the tree-type data structure, for each of non root nodes which are the nodes excluding the root node, their parent nodes are correlated so that the parent-child relationship between the nodes is expressed by using "child -> parent" relationship. Accordingly, by specifying a child node, it is possible to promptly specify the only one parent node corresponding to the child node.